REMARKS

Responsive to the Office Action mailed on June 29, 2007 in the above-referenced application, Applicant respectfully requests amendment of the above-identified application in the manner identified above and that the patent be granted in view of the arguments presented. No new matter has been added by this amendment.

Present Status of Application

Claims 1-5 are rejected under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1-5 are further rejected under 35 U.S.C. §103(a) as being unpatentable over Atkins (USPN 5399390, hereinafter "Atkins") in view of Suzuki (USPN 6801274, hereinafter "Suzuki"), Moshrefzadeh et al (USPN 6077560, hereinafter "Moshrefzadeh") and Nakahara et al (US 2004/0004691, hereinafter "Nakahara").

In this paper, new claims 11 and 12 are added. New claim 11 recites that the black photo-resist is jetted onto a surface of the substrate opposite to that on which the R, G, B color filtering layers are formed. New claim 12 depends from claim 11 and recites that the black photo-resist is jetted into grooves formed in the substrate opposite to gaps between the R, G, B color filtering layers. Support for the amendment can be found, for example, in Fig. 11 and related portions of the specification as originally filed. Thus, on entry of this amendment, claims 1-5 and 11-12 remain in the application.

Reconsideration of this application is respectfully requested in light of the amendments and the remarks contained below.

Rejections Under 35 U.S.C. 112

Claims 1-5 are rejected under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner asserts that step of jetting a black photo-resist liquid is indefinite because it is

unclear whether or not the step is "related" to the step of jetting a plurality of primary colors. Applicant respectfully traverses the rejection for the reasons as follow.

As noted in MPEP 2173.02, in reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. See, e.g., *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 USPQ2d 1279, 1283 (Fed. Cir. 2000). If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph, would be appropriate. See *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993). See also *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004) ("The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles ... Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite.").

Claim 1 recites a color filter manufacturing method, comprising the steps of providing a ***substrate*** with an extrusion method, the substrate having a plurality of grooves, each groove comprising an intermediary step portion between a top and bottom thereof; jetting a plurality of primary colors of red R, green G, blue B into the grooves of the ***substrate*** by inkjet printing method to form color filtering layers in the primary colors of R, G, B; jetting a black photo-resist liquid to the ***substrate*** by inkjet printing method and forming a black photo-resist thereon; and covering a plane passivation layer on the top surface of the substrate.

Thus, it is quite clear from the claim that the steps "jetting a plurality of primary colors of red R, green G, blue B into the grooves of the substrate by inkjet printing method to form color filtering layers in the primary colors of R, G, B" and "jetting a black photo-resist liquid to the substrate by inkjet printing method and forming a black photo-resist thereon" are related insofar as they are

both performed in relation to the recited "substrate." Applicant therefore submits that the claim "apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph." Withdrawal of the rejections under 35 U.S.C. 112 is respectfully requested.

Rejections Under 35 U.S.C. 103(a)

Claims 1-5 further rejected under 35 U.S.C. §103(a) as being unpatentable over Atkins in view of Suzuki, Moshrefzadeh and Nakahara. Applicant respectfully traverses the rejections for the reasons as follow.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

In the rejections, the Examiner relies upon a combination of Atkins, Suzuki, Moshrefzadeh, and Nakahara to teach the limitations of claim 1. In particular, the Examiner relies on Atkins to teach the steps of 1) providing a substrate having a plurality of grooves; and 2) filling primary colors into the groove by jetting. See page 3 of the office action. Moshrefzadeh and Nakahara are relied upon to teach inkjet printing resist onto a substrate. Suzuki is relied upon to teach an intermediary step portion.

Atkins teaches a liquid crystal display with a polymeric substrate. In Atkins, the alleged "grooves" are scalloped channels 36, 38, and 40. Disposed in each channel is a thin layer of transparent conductive material 50, 52 and 54, respectively. Disposed over the transparent conductive material are layers of cholestric liquid crystal material 66, 68 and 70, respectively. It is this cholestric liquid crystal material that the Examiner apparently identifies as the alleged "color filtering layers" of the claims.

Claim 1

As noted in the amendment dated May 10, 2007, claim 1 recites a step of jetting a plurality of primary colors of red R, green G, blue B into the grooves of the substrate by inkjet printing method to form color filtering layers in the primary colors of R, G, B.

To the contrary, Atkins teaches that the cholesteric liquid crystal material is disposed in the channels "after the substrates are bound together, but prior to sealing the edges thereof." See col. 4, lines 32-36 of Atkins. In other words, the cholesteric liquid crystal material is injected into the channels via openings at the edges. This differs from claim 1, which recites that the color filtering layers are formed by the inkjet printing method. Furthermore, given that the cholesteric liquid crystal material is disposed in the channels *after* the substrates are bound together, any modification of the reference to jet the material by the inkjet printing method would require a substantial redesign of the entire method.

Applicant notes that this argument advanced in the amendment dated May 10, 2007 was in no way addressed in the present office action. Furthermore, as the present office action fails to state with completeness and clarity any teaching or suggestion of at least the limitation noted above, Applicant submits that the rejection of claims 1-5 should be withdrawn. Should an ensuing office action be mailed which provides new grounds for the rejection of claims 1-5, such action should be made non-final. MPEP 706.07(a).

Claim 3

Claim 3 recites that a surface area of the substrate around the groove is a rough surface. In the rejections, the Examiner refers to a number of passages and figures in Atkins to teach this limitation (i.e., col. 2, lines 24-30 and 35-41, col. 3, lines 30-35, 40-55 and 61-68, col. 4, lines 13-25 and 49-56 and Figs. 2-4). See page 4. On review of said passages and figures, it remains unclear where Atkins teaches or suggests this limitation. Namely:

> The first and second substrates are fabricated of a polymeric material, such as an optically anisotropic polymeric material. Deposited on one surface of the first substrate is a layer of transparent conductive material. The transparent conductive material may be,

for example, a transparent conductive oxide such as indium tin oxide. [col. 2, lines 24-30]

Disposed in each said channel is a layer of transparent conductive oxide such as that discussed hereinabove. The first and second substrates are arranged so that the surfaces having transparent conductive material disposed thereon, are in substantially parallel, facing relationship. The first and second substrates are bonded together either at the edges thereof, or in the regions between each adjacent channel. [col. 2, lines 35-41]

The substrate 30 is fabricated of a polymeric material, and may be an optically anisotropic polymeric material. Examples of preferred polymeric substrate materials includes extruded thermoplastic films such as polyester, Mylar, Kapton, polyethylene-tera phalate, polyetheretherketone, polyetherimide (ULTEM.RTM.), polyvinylidene fluoride (KYNAR.RTM.), and combinations thereof. [col. 3, lines 30-35]

The substrate 30 has first and second surfaces 32 and 34. Formed into the first surface 32 of said substrate 30 is a plurality of substantially parallel channels, for example, 36, 38 and 40. [col. 3, lines 40-55]

Disposed inside each of said channels 36, 38 and 40 is a thin layer of a transparent conductive material, 50, 52 and 54 respectively. [col. 3, lines 61-68]

The liquid crystal display device 60 further includes a second substrate 62 also formed of a polymeric material, such as that described with respect to substrate 30. Substrate 62 is a substantially flat, planar substrate having a layer of transparent conductive material 64 disposed on one surface thereof. Transparent conductive material 64 may be a material such as that described hereinabove with respect to layers 50, 52 and 54. It is to be noted that the transparent conductive materials may be deposited on substrates 30 and 62 by any of a number of conventionally known techniques. [col. 4, lines 13-25]

> Accordingly, it is possible to provide a full color liquid crystal display device by disposing, for example, a layer of red altered cholesteric liquid crystal material in channel 36, a layer of blue altered cholesteric liquid crystal material in channel 38, and a layer of green altered cholesteric liquid crystal material in channel 40. It will be apparent to one of ordinary skill in the art to reflect other combinations of colors to effect a full color display. [col. 4, 49-56]

Where in these paragraphs or Figs. 2-4 does it teach that "a surface area of the substrate around the groove is a rough surface," as recited in claim 3? Applicant respectfully requests that the Examiner more clearly point out where in the reference(s) this limitation is purportedly disclosed or withdraw the rejection of the claim. Furthermore, should an ensuing office action be mailed which provides new grounds for the rejection of claim 3, such action should be made non-final. MPEP 706.07(a).

Claim 4

Claim 4 recites that the black photo-resist is formed on the surface of the substrate separated from the R, G, B color filtering layers. Applicant submits that even when combined, Atkins, Suzuki, Moshrefzadeh and Nakahara fail to teach or suggest this feature.

Furthermore, the rejection of claim 4 (i.e., "[i]n regards to claims 4-5, such are taught by the above combination of Atkins ..." on page 4 of the Office action) is not fully and clearly stated. As such, should an ensuing office action be mailed which provides new grounds for the rejection of claim 4, such action should be made non-final. MPEP 706.07(a).

New Claims 11-12

New claim 11 recites that the black photo-resist is jetted onto a surface of the substrate opposite to that on which the R, G, B color filtering layers are formed. To the contrary, it is believed that in Atkins, Suzuki, Moshrefzadeh and Nakahara, the alleged "black photo-resist" is disposed the same surface of the substrate that on which the alleged "R, G, B color filtering layers" are formed.

New claim 12 depends from claim 11 and recites that the black photo-resist is jetted into grooves formed in the substrate opposite to gaps between the R, G, B color filtering layers. This feature is also believed to be absent from Atkins, Suzuki, Moshrefzadeh and Nakahara.

It is therefore Applicant's belief that even when taken in combination, the prior art references relied upon by the Examiner do not teach or suggest all the limitations of at least claims 1, 3, 4 11 and 12. For at least this reason, a *prima facie* case of obviousness cannot be established in connection with these claims. Furthermore, as it is Applicant's belief that a *prima facie* case of obviousness is not established for claim 1, the Examiner's arguments in regard to the other dependent claims are considered moot and are not addressed here. Allowance of claims 1-5 and 11-12 is respectfully requested.

Conclusion

The Applicant believes that the application is now in condition for allowance and respectfully requests so. The Commissioner is authorized to charge any additional fees that may be required or credit overpayment to Deposit Account No. **502447**.

Respectfully submitted,

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